S.N. 09/945,094. . . . . Page 7

REMARKS

Claims 1-17 are pending in this application.

Claims 1-17 are rejected.

The office action dated September 12, 2003 indicates that claim 4 is objected to. This objection has been rendered moot by the amendment above to claim 4. Claim 4 has also been amended for clarity.

The office action indicates that claims 1-4, 6, and 11-14 are rejected under 35 USC §102(b) as being anticipated by Wagensonner et al. U.S. Patent No. 4,812,903. This rejection is respectfully traversed.

Wagensonner et al. disclose an image processor 6 for processing an RGB signal (see Figure 1 and col. 5, lines 56-63). The processor 6 transforms the RGB signal into a luminance component (Y) and chrominance components (U,V) (see. col. 7, lines 34-49), adjusts the contrast of the luminance signal with unit 15 (see col. 7, lines 58-62) adjusts color saturation of the chrominance components with unit 14 (see col. 7, lines 50-56), and transforms the processed components back to an RGB signal (see col. 7, lines 62-67).

During color saturation adjustment, the chrominance components (U,V) are multiplied by the same factor Y2/Y1, where Y1 is the original luminance signal, and Y2 is the contrast-adjusted luminance signal (see col. 12, lines 1-20). A circuit that compensates for the shifting of color saturation is shown in Figure 5 (see col. 12, lines 41-43).

Claim 4 recites applying a tone mapping function to an A_L channel of each

S.N. 09/945,094. . . . . .Page 8

pixel to generate a tone-corrected relative luminance value A'_L for each pixel; and transforming A_k channel values of each pixel according to $A'_k = (A_k / A_L) \times A'_L$. where the A_L and A_K channels are from a positive linear color space. Examples of linear positive color space include the CIE tristimulus XYZ space, RGB space, and human cone sensitivity space.

Wagensonner et al. do not teach or suggest tone correction and color adjustment on values in a positive linear color space. They only teach and suggest contrast/saturation adjustment on YUV color space. Therefore, claim 4 and its dependent claims 5-10 should be allowed over Wagensonner et al.

Claim 1 has been amended to recite applying a tone mapping function to a first color channel of a pixel, the first color channel most closely matching relative luminance response of the human visual system; computing scale factors for other channels of the pixel, the scale factors computed according to noise balancing terms and a change in value of the first color channel; and applying the scale factors to the other color channels of the pixel. The noise balancing terms have very little influence on the chromaticities of high-luminance pixels, but help to reduce the noise amplification problem on low-luminance pixels.

Wagensonner et al. do not teach or suggest noise balancing terms. The office action cites a passage at col. 10, lines 19-29 of Wagensonner et al, but that passage does not teach or suggest the addition of noise balancing terms. The passage only mentions a non-linear characteristic transfer function K2 of transfer unit 21. Therefore, claim 1 and its dependent claims 2-3 should be allowed over Wagensonner et al.

Claims 5 and 7-10, which depend from claim 4, also recite noise balancing terms. For the additional reason that Wagensonner et al. do not teach or suggest

S.N. 09/945,094. . . . . Page 9

noise balancing terms. Claims 5 and 7-10 should be allowed over Wagensonner et al.

Claim 3 has been amended to recite that the noise balancing terms are a triplet of numbers proportional to a white point. Claims 8 and 10 recite similar limitations. This limitation is not taught or suggested by Wagensonner et al. For this additional reason, claims 3, 8 and 10 should be allowed over Wagensonner et al.

Claim 11 has been amended to recite the subject matter of claim 12, now cancelled. Claim 11 and its dependent claim 13-14 should be allowed over Wagensonner et al. because Wagensonner et al. do not teach or suggest tone correction and color adjustment on values in a positive linear color space.

Claim 15 has been amended to recite the subject matter of claim 16, now cancelled. Claim 15 and its dependent claim 17 should be allowed over Wagensonner et al. because Wagensonner et al. do not teach or suggest tone correction and color adjustment on values in a positive linear color space.

Claims 18-23 have been added to the present application. These claims should be allowed over Wagensonner et al. because Wagensonner et al. do not teach or suggest noise balancing terms.

The examiner is respectfully requested to allow claims 1-11, 13-15, and 17-23. If any issues remain, the examiner is invited to contact the undersigned to discuss those remaining issues.